AMENDMENT AND RESPONSE UNDER 37 CFR § 1.116 – EXPEDITED PROCEDURE

Serial Number: 10/010433

Filing Date: December 7, 2001

BRANCHED POLYMERS CONTAINING IMIDAZOLE GROUPS AND THE PRODUCTION AND USE THEREOF

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IN THE CLAIMS

Please amend the claims as follows.

- 1. (Currently Amended) <u>A branched</u> Branched polymer comprising, the following mixture of monomers:
 - (A) 50 to 93 wt.% of at least one ethylenically unsaturated monomer, wherein the monomer comprises an acrylate ester or a methacrylate ester of a straight or branched alcohol having 1 to 22 carbon atoms selected from the group consisting of methyl acrylate, ethyl acrylate, butyl acrylate, n-butyl acrylate, iso-butyl acrylate, t-butyl acrylate, lauryl acrylate, 2-ethylhexyl acrylate, stearyl acrylate, behenyl acrylate, methyl methacrylate, ethyl methacrylate, butyl methacrylate, n-butyl methacrylate, iso-butyl methacrylate, t-butyl methacrylate, lauryl methacrylate, 2-ethylhexyl methacrylate, stearyl methacrylate, behenyl methacrylate, and mixtures thereof;
 - (B) 2 to 25 wt.% of at least one ethylenically unsaturated macromonomer with a number average molecular weight (M_n) molecular weight of 1,000 to 20,000 and
 - (C) 5 to 25 wt.% of at least one polymerisable imidazole derivative, wherein components (A), (B) and (C) together make up 100 wt.%; and the polymer possesses a number average molecular weight (M_n), of 15,000 to 100,000 and is optionally present in the form of a salt.
- 2. The branched polymer according to claim 1, wherein component (B) is present in a quantity of 5 to 15 wt.% and component (C) in a quantity of 10 to 20 wt.%.
- 3. (Currently Amended) The branched polymer according to claim 1, wherein the <u>number</u> average molecular weight of the polymer is 25,000 to 75,000 , preferably 30,000 to 50,000.

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4. (Currently Amended) The branched polymer according to claim 1, wherein component (A) is optionally comprises a hydroxyalkyl or an alkyl polyalkylene glycol acrylate or methacrylate, a styrene or derivative thereof or a vinyl ether and component (B) is a poly(meth)acrylate with terminal (meth)acrylic function or a monovinyl-terminated polydimethylsiloxane and component (C) is N-vinylimidazole.

- 5. (Currently Amended) The branched polymer according to claim 1, wherein this the imidazole derivative is present as a salt of a fatty acid, a hydroxycarboxylic acid, a sulfonic acid, a sulfate, an acidic phosphate or an inorganic acid.
- 6. (Currently Amended) A process for preparing a branched polymer, comprising:
 - (A) 50 to 93 wt.% of at least one ethylenically unsaturated monomer, wherein the monomer comprises an acrylate ester or a methacrylate ester of a straight or branched alcohol having from 1 to 22 carbon atoms;
 - (B) 2 to 25 wt.% of at least one ethylenically unsaturated macromonomer with a number average molecular weight molecular weight of 1,000 to 20,000 and
 - (C) 5 to 25 wt.% of at least one polymerisable imidazole derivative wherein the (A),(B), and (C) components are polymerised by free-radical polymerisation in the presence of an organic solvant and at least one radical initiator, at a temperature of 50 to 180°C, and

wherein the polymer is optionally converted to its salt.

- 7. The process according to claim 6, wherein the organic solvent is an ester and the radical initiator is a peroxide or an azo compound.
- 8. The process according to claim 6, wherein the reaction temperature is 90 to 150°C.
- 9-11. (Cancelled)

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12. A paint, paste or modeling composition comprising a pigment and/or filler and a branched polymer according to claim 1, wherein the branched polymer is a dispersing agent.

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- 13. The composition of claim 12 further comprising a binder.
- 14. The composition of claim 12, wherein the branched polymer is used in a quantity of 0.5 to 100 wt.% based on the solid to be dispersed.
- 15. A coating for powdered or fibrous solids comprising a branched polymer according to claim 1.
- 16. The coating of claim 15, wherein the branched polymer is used in a quantity of 0.5 to 100 wt.% of the solid.
- 17. (Currently Amended) The branched polymer according to claim 1, wherein component (A) further comprises cycloaliphatic acrylates; cycloaliphatic methacrylates; aralkyl acrylates; aralkyl methacrylates; aerylates with a hydroxy function; methacrylates with a hydroxy function; styrene; alpha-methylstyrene; triethylene glycol monomethacrylate, acrylonitrile, butoxypropylene glycol methacrylate, ethyl vinyl ether, butyl vinyl ether, cyclohexyl vinyl ether, or mixtures thereof as comonomers.
- 18. (Currently Amended) The branched polymer according to claim 1-or-17, wherein the cycloaliphatic acrylates; cycloaliphatic methacrylates; aralkyl acrylates; or aralkyl methacrylates, are acrylate ester or methacrylate ester is methyl acrylate, ethyl acrylate, butyl acrylate, lauryl acrylate, 2-ethylhexyl acrylate, stearyl acrylate, behenyl acrylate, cyclohexyl acrylate, isobornyl acrylate, benzyl acrylate, hydroxyethyl acrylate, hydroxyethyl acrylate, hydroxyethyl acrylate, triethylene glycol monoacrylate, butoxypropylene glycol acrylate, methyl methacrylate, ethyl methacrylate, butyl methacrylate, lauryl methacrylate, 2-ethylhexyl methacrylate, stearyl methacrylate, behenyl methacrylate,

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cyclohexyl methacrylate, isobornyl methacrylate, benzyl methacrylate, hydroxyethyl methacrylate, hydroxypropyl methacrylate, triethylene glycol monomethacrylate, butoxypropylene or glycol methacrylate; or mixtures thereof.

- 19 The branched polymer according to claim 18 17, wherein component (A) further comprises acrylonitrile, styrene, alpha-methylstyrene, ethyl vinyl ether, butýl vinyl ether cyclohexyl vinyl ether, or mixtures thereof.
- 20. (New) The branched polymer according to claim 3, wherein the number average molecular weight of the polymer is 30,000 to 50,000.